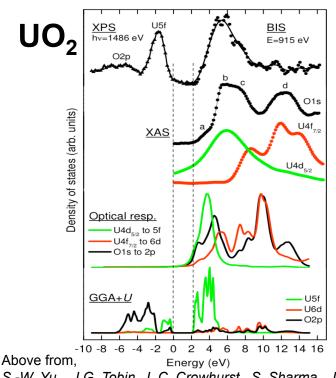
OBES Project on Electron Correlation Recent Highlights – January 2011



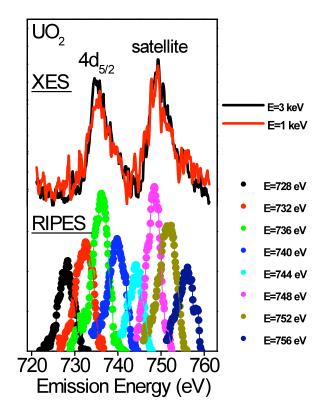
- UO₂ is the most widely used nuclear fuel and exhibits strong electron correlation effects.
- We are investigating UO₂ with a powerful array of spectroscopic techniques, such as X-ray absorption (XAS), X-ray emission (XES), Bremstrahlung Isochromat Spectroscopy (BIS), Resonant Inverse Photoelectron Spectroscopy (RIPES) and Photoelectron Spectroscopy, including XPS and the spin resolving variant called Fano Spectroscopy.

New Publications

- 1. J.G. Tobin, S.W. Yu, B.W. Chung, G.D. Waddill, L. Duda and J. Nordgren, "Observation of Strong Resonant Behavior in the Inverse Photoelectron Spectroscopy of Ce Oxide," Phys. Rev. 83, 085104 (2011).
- 2. S.-W. Yu and J.G. Tobin, "Confirmation of Sample Quality: X-ray and Ultraviolet Photoelectron Spectroscopy of Uranium Dioxide," J. Vac. Sci. Tech. A **29** 021008 (2011).



S.-W. Yu, J.G. Tobin, J. C. Crowhurst, S. Sharma, J. K. Dewhurst, P. Olalde-Velasco, W. L. Yang, and W. J. Siekhaus, "f-f origin of the insulating state in uranium dioxide: X-ray absorption experiments and first-principles calculations," Phys. Rev. B, in press (2011).



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